

## **REMARKS**

[0001] Claims 1-22 are pending in the application.

[0002] Claims 1-22 are currently amended. Applicants respectfully submit that no new matter is added to currently amended claims 1-22.

[0003] Claims 2-7, 9-14, and 16-21 stand rejected under 35 U.S.C. § 112, second paragraph.

[0004] Claims 1-22 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 7,098,896 to Kushler et al., hereinafter, Kushler.

[0005] Applicants respectfully traverse the rejections based on the following discussion.

### **I. The 35 U.S.C. § 112, Second Paragraph, Rejection**

[0006] Claims 2-7, 9-14, and 16-21 stand rejected under 35 U.S.C. § 112, second paragraph, because the Office Action finds the phrase, "all the limitations of which are incorporated herein by reference", unclear.

[0007] In addition, dependent claims 2-7, 9-14, and 16-21 claims have been amended to remove the language that was previously added to comply with new Rule 37 CFR 1.75(b), now that the enactment of Rule 37 CFR 1.75(b) has been permanently enjoined by the courts.

[0008] For at least the reasons outlined above, Applicants respectfully submit that currently amended claims 2-7, 9-14, and 16-21 fulfill the statutory requirements of 35 U.S.C. § 112, second paragraph. Withdrawal of the rejection of claims 2-7, 9-14, and 16-21 under 35 U.S.C. § 112, second paragraph, is respectfully solicited.

### **II. The 35 U.S.C. 103(a) Rejection over Kushler**

#### **A. The Kushler Disclosure**

[0009] Kushler discloses that "[t]he system of the present invention allows the user to input a word of text without having to set the stylus down on the screen to contact an intended letter and then lift the stylus from the screen again before contacting the next letter – i.e., without having to "tap" each letter. This enables the user to input text much more quickly, since the

extraneous movements of lifting and setting down the stylus need not be performed, and since maintaining contact between the stylus and the screen makes it easier in general to maintain more precise control over the location of contact by helping to stabilize the relationship between the stylus and the screen, Furthermore, in general it allows the displayed keyboard as a whole to be significantly reduced in size, since the path traced out by the user need not precisely contact each letter of the intended word. To the extent that the keyboard is not significantly reduced in size, speed of entry tends to be able to be correspondingly increased." (col. 7, line 61 to col. 8, line 10).

[0010] Kushler also discloses that that the path traced out on the touch-screen by the user and recorded by the system for analysis is referred to as the input pattern. As the user traces out an input pattern on the touch screen, the system records the sequence of points of contact detected by the touch-screen controller hardware. As the input pattern is recorded, it is processed by an input pattern analysis component. The input pattern analysis component extracts the data needed by the pattern matching component, which compares the extracted data with words in a database to identify a list of one or more words determined to be the most likely matching candidate words. One or more of these identified words are presented to the user for selection, and a selected word is added to the text being entered by the user. (col. 8, lines 11-24, which are cited by the Office Action).

[0011] Kushler further discloses that if the user proceeds to continue tapping the keyboard, then the sequence of taps generates a word object comprised of the tap location letters concatenated in the sequence that the corresponding keys are tapped (the "tap location word"). Following the second tap, this word composed of the tap location letters appears as the default word choice in the word choice list. (col. 8, lines 20-26, which are cited by the Office Action).

## **B. Arguments**

[0012] Currently amended, independent claims 1 and 22 recite in relevant part,

[0013] "comparing a geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a

lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by calculating a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters;

[0014] determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said determined word; and

[0015] displaying, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling."

[0016] Currently amended, independent claim 8 recites in relevant part,

"computing a distance between a landing point coordinate and a corresponding center point coordinate of said correctly or incorrectly entered letter of said word for each landing point in said sequence of at least two tapped landing points;

...

[0017] determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest mean distance between said sequence of at least two tapped landing points, excluding said space bar, and said sequence of correctly or incorrectly entered letters for said determined word; and

[0018] displaying, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling".

[0019] Currently amended, independent claim 15 recites in relevant part,

[0020] "a comparing module and calculator configured to compare a geometric pattern formed said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number

of correctly or incorrectly entered letters and to calculate a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters;

[0021] a determining module configured to determine a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said determined word; and

[0022] a display to display, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling".

[0023] The Office Action argues that Kushler teaches "at least two tapped landing points", as recited by the claims, are represented by landing points 2212, 2214, 2216, and 2218 of Fig. 2B.

[0024] Applicants respectfully disagree that 2212, 2214, 2216, and 2218 of Fig. 2B of Kushler are analogous to the tapped landing points of the invention. Instead, Kushler discloses with respect to Fig. 2B that "[t]he path of an input pattern, as entered by a user using a touch device, such as a stylus pen, starts at an initial contact point 2212, which location is received by the processor and recorded by an input pattern analysis component that is being executed by the processor as the PEN\_DOWN inflection point for the input pattern. The user moves the stylus so that the path then moves first to the key associated with the letter "e", then turns sharply to move toward the key associated with the letter "x", creating an ANGLE\_THRESHOLD inflection point that is recognized by the input analysis component at location 2214. Then, in the vicinity of (though not on) the key associated with the letter "x", the path turns sharply back up toward the key associated with the letter "t", creating a second ANGLE\_THRESHOLD

inflection point that is recognized by the input pattern analysis component at location 2216. Finally, the stylus is lifted from the touchscreen at location 2218, which is recorded by the input pattern analysis component as a PEN\_UP inflection point for the input pattern." (col. 24, lines 44-63).

[0025] Kushler defines the input pattern, corresponding to Fig. 2B, as comprising three, i.e., PEN\_DOWN, PEN\_UP, and ANGLE\_THRESHOLD, of the five types of inflection points, i.e., PEN\_DOWN, PEN\_UP, ANGLE\_THRESHOLD, ROW\_CHANGE, and DOUBLE\_LETTER. (Please see, col. 9, line 62 to col. 10, line 62).

[0026] Kushler does not define a TAP as an inflection point. Instead, Kushler defines TAP as: "a location where the stylus is more or less immediately lifted after contacting the screen, corresponding to the case of a one-letter word or the selection of a single function key." (col. 10, lines 8-11). Kushler clearly distinguishes between a TAP and an inflection point. However, Kushler does not regard any of the inflection points, i.e., 2212, 2214, 2216, and 2218 of Fig. 2B as a TAP.

[0027] The Office Action further argues that Kushler teaches "tapped landing points", as recited by the claims, are represented by landing points 2502, 2504, 2506, and 2508 of Fig. 2E.

[0028] Applicants respectfully disagree that 2502, 2504, 2506, and 2508 of Fig. 2E of Kushler are analogous to the tapped landing points of the invention. Instead, Kushler discloses with respect to Fig. 2E that "Fig. 2E shows a smoothed input pattern 2500 created by applying a smoothing process to the initial simulated input pattern 2402 of Fig. 2D. The smoothed input pattern 2500 is then processed by the system in the same manner as an input pattern traced out by the user, resulting in identification of a PEN\_DOWN inflection point at location 2502; a ROW\_CHANGE inflection point at location 2504; an ANGLE\_THRESHOLD inflection point at location 2506; and a PEN\_UP inflection point at location 2508." (col. 26, lines 22-31).

[0029] Kushler defines the input pattern, corresponding to Fig. 2E, as comprising four, i.e., PEN\_DOWN, PEN\_UP, ANGLE\_THRESHOLD, and ROW\_CHANGE, of the five types of inflection points, i.e., PEN\_DOWN, PEN\_UP, ANGLE\_THRESHOLD, ROW\_CHANGE, and DOUBLE\_LETTER. (Please see, col. 9, line 62 to col. 10, line 62).

[0030] Again, Kushler does not define a TAP as an inflection point. Instead, Kushler

defines TAP as: "a location where the stylus is more or less immediately lifted after contacting the screen, corresponding to the case of a one-letter word or the selection of a single function key." (col. 10, lines 8-11). Kushler clearly distinguishes between a TAP and an inflection point. However, Kushler does not regard any of the inflection points, i.e., 2502, 2504, 2506, and 2508 of Fig. 2E as a TAP.

[0031] To place the above examples in context, Applicants respectfully submit that Kushler discloses a "continuous stroke word-based text input" (Title), based on the concept of "inflection points" (col. 9, lines 4-27). Kushler then defines five different types of inflection points: PEN\_DOWN, PEN\_UP, ANGLE\_THRESHOLD, ROW\_CHANGE, and DOUBLE\_LETTER. (col. 9, line 62 to col. 10, line 62). A TAP, as defined by Kushler, is not an inflection point; it is but a special case of a one-letter word or selection of a single function key.

[0032] In contrast, the present invention clearly describes using "a sequence of at least two tapped landing points" throughout the claims, i.e., "recording a sequence of at least two tapped landing points on said keyboard, each of said sequence of at least two tapped landing points having a coordinate, and said sequence of at least two tapped landing points corresponding in a one-to-one manner to a sequence of correctly or incorrectly entered letters of a word, and a tapped space bar that delimits said word; ... comparing a geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by calculating a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters; determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points", as recited in

currently amended, independent claims 1 and 22 (emphases added); "recording a sequence of at least two tapped landing points on said keyboard, each of said sequence of at least two tapped landing points having a coordinate, and said sequence of at least two tapped landing points corresponding in a one-to-one manner to a sequence of correctly or incorrectly entered letters of a word, and a tapped space bar that delimits said word; ... for said all words having said number of letters, computing a distance between a landing point coordinate and a corresponding center point coordinate of said correctly or incorrectly entered letter of said word for each landing point in said sequence of at least two tapped landing points; ... and determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest mean distance between said sequence of at least two tapped landing points, excluding said space bar", as recited in currently amended, independent claim 8 (emphases added); and "a recorder configured to record a sequence of at least two tapped landing points on said keyboard, each of said sequence of at least two tapped landing points having a coordinate, and said sequence of at least two tapped landing points corresponding in a one-to-one manner to a sequence of correctly or incorrectly entered letters of a word, and a tapped space bar that delimits said word; ... a comparing module and calculator configured to compare a geometric pattern formed said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters and to calculate a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters; a determining module configured to determine a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said

determined word", as recited in currently amended, independent claim 15 (emphases added).

[0033] The Office Action yet further argues that Kushler teaches, "If however, the user proceeds to continue tapping the keyboard, the sequence of taps generates a word object comprised of the tap location letters concatenated in the sequence that the corresponding keys are tapped. Following the second tap, this word composed of tap location letters appears as the default word choice in the word choice list." (col. 20, lines 20-26).

[0034] Applicants readily concede that the taps of Kushler, described immediately above, are analogous to the tapped landing points of the invention. However, the question remains as to whether Kushler's taps are, as described by the invention, used as inputs to a geometric pattern recognition process that "corrects" taps, which have landed outside of the intended letter keys for a word in a lexicon.

[0035] Kushler's description, "a word object comprised of the tap location letters concatenated in the sequence that the corresponding keys are tapped", teaches that his taps are literally used to construct a string of letters, as would a conventional touch screen keyboard. That is, if the tapped keys were *t-h-o-s*, then the "word object" of Kushler is "*thos*", and not "*this*", which is a possible result of the invention.

[0036] The term, "word object", is used in only one other place by Kushler, i.e., "In accordance with another preferred embodiment, although not normally displayed explicitly on the keys of keyboard 2104, various alternate letter forms, such as letters with diacritic markings, are associated with each key that is associated with and displays the base form of the letter with alternate forms. In accordance with another preferred embodiment, FIG. 2C shows a "pop-up" menu 2300 of alternate letter forms of the letter "e" that is displayed after a user has touched the stylus on the "e" key, and maintained contact with the key past a predetermined time threshold. In the example shown in FIG. 2C, the user has slid the stylus' point of contact 2302 up to the list row 2304 containing the alternate letter form "é," which is correspondingly highlighted, so that when the user lifts the stylus from the screen, the letter "é" will be explicitly added to the word currently being spelled through conventional "tapping." This embodiment enables a user to explicitly enter alternate forms of letters to spell out words that are not yet present in the system's database, without having to switch to an alternate keyboard layout



display. In the example shown in FIG. 2C, the user is in the process of spelling out the word "Café," and has already "tapped" the Shift key, followed by the "c," "a" and "f" keys, creating the TAP location **word object** "Caf" which appears in a word selection list 2306 at the text insertion point as a default (and only) **word object** in the list. When the user lifts the stylus from the screen at position 2302, the letter "é," will be appended to the TAP location word to form the word "Café," which, in accordance with another preferred embodiment, can be explicitly selected by tapping the selection list 2306 at row 2308, or implicitly selected by proceeding to enter a continuous stroke input pattern for a next word. Alternatively, the user can cancel the current selection list by selecting the row 2310 associated with the CANCEL function." (col. 25, lines 34-67).

[0037] Applicants respectfully argue that the term "word object", as described by Kushler, explicitly refers to the precise sequence of letters (keys), which are tapped. Please note, Kushler's phrase, "Caf which appears in a word selection list 2306 at the text insertion point as a default (and only) **word object**", clearly eliminates the possibility of using the taps as input to an error correction process, which should produces a corrected word alternative, found in the lexicon, to the literal sequence of tapped keys, as does the present invention.

[0038] Therefore, Applicants respectfully argue that Kushler treats a sequence of tapped keys as a precise character string, and not as input to an error correction process clearly described by the claims of the invention.

[0039] Kushler yet further discloses, "'Following the second tap, this word composed of the tap location letters appears as the default word choice in the word choice list. Selection of this word by the user (either by explicitly selecting it from the word choice list or by proceeding to trace out an input pattern to input a next word, thus selecting the tapped word by virtue of its being the default word choice) inserts the word into the output text.'" (col. 20, lines 24-31). That is, the literal string from the letter keys is presented to the user. If the user traces another input pattern, this literal string is sent as output text. There is no error correction process in Kushler's sequences of taps.

[0040] Kushler yet further discloses, "In another aspect, whenever such a word composed of tap location letters is accepted for output into the text being generated, if the word is not

already present in the database it is automatically added to a user word list of words added by this user to the database of words initially present in the system." (col. 20, lines 31- 36). This disclosure further indicates that the taps of Kushler cannot possibly be sent to an error correction process, based on geometric pattern recognition as clearly described and claimed by the presesent invention, because Kushler's taps are used to indicate new strings to be added to a recognition database (lexicon).

[0041] In contrast, the present invention clearly describes: "comparing a geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by calculating a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters; determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said determined word; and displaying, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling.", as recited in currently amended, independent claims 1 and 22 (emphases added); "computing a distance between a landing point coordinate and a corresponding center point coordinate of said correctly or incorrectly entered letter of said word for each landing point in said sequence of at least two tapped landing points; ... and determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest mean distance between said sequence of at least two tapped landing points, excluding said space bar, and said sequence of correctly or incorrectly entered letters for said determined word; and displaying, to a user, said

determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling", as recited in currently amended, independent claim 8 (emphases added); and "a comparing module and calculator configured to compare a geometric pattern formed said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters and to calculate a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters; a determining module configured to determine a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said determined word; and a display to display, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling", as recited in currently amended, independent claim 15 (emphases added).

[0042] For at least the reasons outlined above, Applicants respectfully submit that Kushler does not disclose, teach or suggest at least the present inventions features of: "comparing a geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by calculating a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered

letters; determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said tapped space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said determined word; and displaying, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling.", as recited in currently amended, independent claims 1 and 22; "computing a distance between a landing point coordinate and a corresponding center point coordinate of said correctly or incorrectly entered letter of said word for each landing point in said sequence of at least two tapped landing points; ... and determining a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest mean distance between said sequence of at least two tapped landing points, excluding said space bar, and said sequence of correctly or incorrectly entered letters for said determined word; and displaying, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling", as recited in currently amended, independent claim 8; and "a comparing module and calculator configured to compare a geometric pattern formed said sequence of at least two tapped landing points, excluding said tapped space bar, to another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters and to calculate a distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for each selected word of said all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters; a determining module configured to determine a word from said selected all words of a lexicon having a number of letters equal to said number of correctly or incorrectly entered letters by determining a shortest distance measure between said geometric pattern formed by said sequence of at least two tapped landing points, excluding said space bar, and said another geometric pattern formed by said sequence of correctly or incorrectly entered letters for said

determined word; and a display to display, to a user, said determined word and said sequence of correctly or incorrectly entered letters of said word to check a correct spelling", as recited in currently amended, independent claim 15. Accordingly, Kushler fails to anticipate the subject matter of currently amended, independent claims 1, 8, 15, and 22, and dependent claims 2-7, 9-14, and 16-21 under 35 U.S.C. §102(e). Withdrawal of the rejection of claims 1-22 under 35 U.S.C. §102(e) as anticipated by Kushler is respectfully solicited.

### **III. Formal Matters and Conclusion**

Claims 1-22 are pending in the application.

Applicants respectfully submit that the currently amended claims fulfill the statutory requirements of 35 U.S.C. §112, second paragraph.

With respect to the rejections of the claims over the cited prior art, Applicants respectfully argue that the present claims are distinguishable over the prior art of record. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-22, all the claims presently pending in the application, are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest time possible.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

Dated: October 16, 2008

/Peter A. Balnave/  
Peter A. Balnave, Ph.D.  
Registration No. 46,199

Gibb & Rahman, LLC  
2568-A Riva Road, Suite 304  
Annapolis, MD 21401  
Voice: (410) 573-5255  
Fax: (301) 261-8825  
Email: [Balnave@Gibb-Rahman.com](mailto:Balnave@Gibb-Rahman.com)  
Customer Number: 29154